Space Weather Forecast

Issued on Sunday, 07 November 2021 at 12:26 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: Slight chance of Moderate class flares. Chance of isolated G1/Minor geomagnetic storms on Days 1 and 2. Active electron fluence likely late Day 1 or into Day 2.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: There are currently three active regions on the visible disc. One small Common class and several background class flares were evident in the last 24 hours, mostly from the southeast limb.

No Earth-directed coronal mass ejections have been seen in available imagery.

Solar Wind / Geomagnetic Activity: The solar wind was mostly Elevated until around 07/0645 UTC when it reduced to Slightly Elevated. The total interplanetary magnetic field,Btt, was Weak. The north-south component, Bz, was also Weak. Geomagnetic levels were Quiet to Unsettled with a couple of Active intervals.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is at background levels with no solar radiation storms observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is forecast to be Low or Very Low through the forecast period with a slight chance of a Moderate class flare.

Solar Wind / Geomagnetic Activity: Solar winds, starting at Slightly Elevated levels may return to Elevated with a chance of Strong later on Day 1 and early on Day 2 (7&8 Nov), before probably then easing back to Slightly Elevated levels on Days 3&4 (9&10 Nov.). Geomagnetic activity is likely to be Quiet to Unsettled with an increased chance of Active to G1/Minor Storm intervals on Day 1 (7 Nov.) and Day 2 (8 Nov.).

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is expected to be close to background levels.

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	30	30	10	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	5	5	10	10
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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